Pet travel guidelines and disease threats

Increased pet travel as rules within Europe have relaxed has meant an increased risk of pets being exposed to exotic diseases and those diseases becoming established in the UK. Changes in the Pet Passport Scheme at the end of 2014 help to increase security around pet travel but veterinary professionals stand in the front line of making not only sure these legal requirements are met but also that pets are protected against diseases not covered by the scheme. This article summarises the rules surrounding pet travel in Europe and some of the more significant diseases facing travelling pets today.

**Key words:** pet travel, pet passport, prophylaxis, zoonosis

**Introduction**

The Pet Travel Scheme (PETS) has has provided a framework for obligatory protection against rabies when leaving the UK and travelling in Europe but there are a multitude of parasitic diseases which cats and dogs travelling abroad are likely to be exposed to. Some of these such as Dirofilaria immitis and Babesia canis are serious and potentially fatal pathogens and some such as Leishmania infantum and Echinococcus multilocularis represent a zoonotic hazard. Of these parasitic threats, there is only a legal requirement for clients to protect their pets against *Echinococcus multilocularis* before they return to the UK. As a result there is a potential for travelling pets to be put at unnecessary risk unless the pet owner actively seeks information about prophylaxis against these parasites or unless the correct advice is given by the veterinary surgeon when travel documents are issued. This advice will vary depending on the countries being visited by the pet, its activity while abroad and the products available to give effective prophylaxis against pathogenic parasites that are endemic there. This article will summarise the current legal pet travel requirements, the proposed (and perhaps actual by the time of publication) changes to the scheme due to be introduced on the 1st January 2015 and the risks posed by those parasites not fully addressed or covered by the scheme.

**Table 1. Legal requirements for dogs, cats and ferrets travelling within EU and listed non-EU countries**

- Microchip
- Vaccination against rabies at least 21 days before entry into the UK
- Have an EU pet passport
- Travel with an approved transport company on an authorised route
- Dogs entering the UK, Ireland, Finland, Norway or Malta must be treated for tapeworms by a vet with a product containing praziquantel (or equivalent) not less than 24 hours and not more than 120 hours (between 1 and 5 days) before its arrival in the UK

Pets travelling from unlisted non-EU countries must conform to the same rules but in addition, after rabies vaccination, a blood serology test must be taken followed by a three month wait before entry into the UK. Unlisted countries can be found on the GOV.UK website (www.gov.uk/take-pet-abroad).

In addition to these rules, further changes came into effect on the 29th December 2014. These are intended to consolidate existing EU regulations and improve pet passport security. These further additional requirements are summarised in Table 2. Even though changes are proposed that will affect passport documentation, passports issued before 29th December 2014 will remain valid for the life of the pet unless the passport is full or destroyed. These changes will improve security around pet movement and rabies transmission, while keeping...
measures in place to try and keep the UK *E. multilocularis* free but do nothing to prevent transmission of other significant parasitic diseases such as *D. immitis* (heartworm), Leishmaniosis and tick borne diseases. It remains the role of veterinary professionals and parasitologists to disseminate the correct role of veterinary professionals and movement of puppies. Travel with more than five pets under the EU Pet Travel Scheme providing they registered to attend a show, competition, sporting event or are preparing for these events. A clearer definition of ‘non-commercial movement’ to enable owners to travel within five days of their pet when travelling by air from outside the EU if they are physically unable to accompany their pets. Capped quarantine periods of six months even if a pet will not develop antibodies to the rabies vaccine. Clearer definitions of what constitutes a dog, cat and ferret to prevent transport of wild animals under the scheme.

### Table 2. Further legal requirements for pet travel that came into force on 29th December 2014

- A new pet passport with additional security features including tamper proof laminated strips, details of the person issuing the passport and a written date from which the pet may travel.
- Microchip implanters will need to meet a certain level of qualification. Veterinary Surgeons and nurses will already meet these requirements.
- Increased EU wide checks. At present these are minimal but some checks will now be required by all EU countries.
- A minimum age of 12 weeks for rabies vaccination to simplify checks and movement of puppies.
- Travel with more than five pets under the EU Pet Travel Scheme providing they registered to attend a show, competition, sporting event or are preparing for these events.
- A clearer definition of ‘non-commercial movement’ to enable owners to travel within five days of their pet when travelling by air from outside the EU if they are physically unable to accompany their pets.
- Capped quarantine periods of six months even if a pet will not develop antibodies to the rabies vaccine.
- Clearer definitions of what constitutes a dog, cat and ferret to prevent transport of wild animals under the scheme.

### Rabies

Most human infections of rabies are caused by the prototypic rabies virus (RABV) and in Europe, red foxes (*Vulpes vulpes*) and racoon dogs (*Nyctereutes procyonides*) are the main reservoirs for infection. Transmission to people occurs through bites and contamination of scratches with saliva. The outcome of clinical cases in all mammals is usually fatal, but all human fatalities could be avoided if treated in time. In Europe, the development of an oral rabies vaccine and mass dosing of the fox population has dramatically reduced the numbers of foxes infected (Freuling, Hampson, Selhorst et al 2013) and now centres of infection in the fox population are limited to areas in Eastern Europe (Figure 1). Cases in domestic pets in Europe are as a result of contact with infected wildlife populations so the reduction of fox rabies seen through the use of the oral vaccine has led to a significant reduction in the number of cases seen. However, the reservoirs in Eastern Europe remain sporadic outbreaks have occurred in Southern European countries such as Greece and Italy. As a result vigilance and increased numbers of zoonotic cases across Europe are increasing due to changes in wildlife populations so the reduction of infection in the fox population are limited to areas in Eastern Europe (Figure 1). Cases in domestic pets in Europe are as a result of contact with infected wildlife populations so the reduction of fox rabies seen through the use of the oral vaccine has led to a significant reduction in the number of cases seen. However, the reservoirs in Eastern Europe remain endemic in the UK. However the increase in pet travel across UK borders since the introduction of the Pet Travel Scheme potentially threatens this status.

### Echinococcus multilocularis

*Echinococcus multilocularis* is a severe zoonosis, carried by both foxes and domestic canids but is currently not endemic in the UK. However the increase in pet travel across UK borders since the introduction of the Pet Travel Scheme potentially threatens this status.

### Life cycle and epidemiology

Eggs shed in the faeces of canids are ingested by an intermediate host. These are mainly rodents (microtine voles) but larger mammals can be infected including man. The larval stages of the parasite develop primarily in the liver and form a hydatid cyst. Like *E. granulosus*, these cysts have an inner germinal epithelium from which brood capsules containing infective scolecis bud off. When these are ingested by canids feeding on prey animals, the scolecis mature to adults in the intestine. Unlike *E. granulosus*, the cyst formed in the intermediate host is alveolar with many sub compartments. This leads to greatly increased pathogenesis as growth of the cyst is locally invasive but also capable of distant metastases as compartments break away from the main cyst. *E. multilocularis* is maintained in endemic areas by a sylvatic life cycle (between wildlife hosts) with foxes providing the main reservoir of infection as the definitive host in Europe and small rodents acting as intermediate hosts. Traditionally, zoonotic cases in Europe occurred among trappers and hunters who came directly into contact with faeces or with carcasses contaminated with faecal material. However zoonotic cases across Europe are increasing due to changes in the distribution of the parasite driven by the urbanisation of the Red fox. In the 1970s and 80s continental fox populations crashed due to a rabies epidemic. However fox populations recovered in the 1990s due to use of the oral vaccine in foxes and rapid urban invasion subsequently occurred. This has brought *E. multilocularis* into urban settings with increased numbers of zoonotic cases in continental Europe (Deplazes, Hegglin,